

Class-Work (5th october 2017) (Understanding input /output functions and on files)

Experiment 1: (To rewrite the data in a format that you want)

```
a = 100* rand(5,5)
//gives a 5 by 5 random matrix with values in [0, 100]
```

```
mprintf( "%3.1f %4.2f %5.3f %d %d \n", a(1,:) )
```

Now put this in a loop and print the entire matrix in this format

Experiment 2: (Writing to a file)

fid = fopen ("data.txt", "w") // Opens a file by name data.txt and stores the pointer to the file in the variable fid. The file is opened in 'write' mode.

Now do

```
mfprintf( fid, "%3.1f %4.2f %5.3f %d %d \n", a(1,:) )
```

Open the file data.txt and see if the data is written to the file.

Repeat the experiment by writing the entire matrix to the file.

Experiment 3: (Reading format)

mscanf and mscanf read the data in the specified format
s = (" 16MCMT01 80 40 60")
L = mscanf(s, "%s %d %d %d")

Try:

```
Data=mscanf(-1, ["Usha 48"; "Mohan 52"; "Sameer 12"], '%s %d')
```

Experiment 4:

Create a data file (with gedit) containing marks records of 10 students in 5 subjects as follows:
16MCMT01 60 70 80 65 75

```
fid = fopen("filename.txt", "r")
```

```
dat = fscanf(-1, fid, "%s %d %d %d %d" ) \|-1 for reading till the end of file
```

```
marks = dat(:, 2:6)
```

Assignment - 5

Now (i) compute grade of each student in each subject and

(ii) calculate the CGPA of each student. (by defining credits for the subjects and assuming grade points(gp) as A+ : 10, A : 9, B+: 8, B:7, C: 6, D:5 and F:4) (Use the formula $\sum gp(i)*c(i) / \sum c(i)$)